



Bulletin

International Association for Landscape Ecology

WHY A EUROPEAN CHAPTER OF IALE ?

A condensed version of "Presentation of EALE - Setting the scene: The specificity of landscape ecology in Europe in the 21th century (see <http://landscape-ecology.eu>)

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The European Association for Landscape Ecology (EALE) groups landscape ecologists working on the specific problems of landscapes in Europe. The specificity of European landscapes, their history, use, conservation and constant change justify such an association besides the existing International Association (IALE) and its national chapters. The reasons have to do with the development of the scientific discipline of landscape ecology, with the concept landscape with its multiple interpretations, with the landscape characteristics of Europe and with the changing demands for research, planning and management in a rapidly transforming world.

Landscape ecology: a brief history

It was the German geographer Carl Troll who developed before the Second World War a methodological approach for a holistic and integrated approach to study the landscape using the emerging technique of aerial photography as a new way of observing the face of the earth. He introduced the term *Landschaftsökologie* and called it an 'Anschauungsweise', a way of looking at the landscape from a combined ecological and geographical perspective, resulting in a holistic and interdisciplinary synthesis.

After the Second World War, this integrative approach was suppressed by a continuing specialisation in all science. But it gradually became clear that environmental problems and societal demands on the landscape are too complex to be solved by individual disciplines. This was the main topic of discussion during an international and multidisciplinary Congress on 'Perspectives in Landscape Ecology – Contributions to research, planning and management of our environment' in Veldhoven (The Netherlands) in April 1981. As a result, the broken link with the tradition of landscape ecology as defined by Troll was re-established and led to the formal creation of the discipline of landscape ecology, integrating many different disciplines dealing

with landscape research. In October 1982, the International Association of Landscape Ecology (IALE) was founded in Piešťany (Slovakia), based on an emerging cooperation between Western and Eastern Europe. Eastern Europe had been through a parallel process of growing interdisciplinary and practice-oriented development among different schools of landscape science, coordinated through regularly (triennially) international symposia, organized by the Institute of Landscape Ecology of the Slovak Academy of Sciences in Bratislava since 1967. The resulting general ideas on landscape ecology were exported to North America, where they were rapidly accepted by ecologists.

In 30 years, landscape ecology developed its own theories, paradigms and methods, which brought about several innovations to landscape research. New concepts were introduced (such as holons, matrix, patches and corridors), permitting landscape ecology to deal with landscape heterogeneity, connectivity and landscape change, using a wide variety of abstract landscape metrics at different spatial scales. The introduction of the patch-corridor-matrix model was fundamentally original, as it allowed to model complex landscapes using spatial analysis. Some of these techniques were already developed in geography, but remained mainly at the theoretical level, because the technical tools and digital data were still missing at that time. Only with the rapid development of GIS and remote sensing has the development of practical applications become possible. Landscape ecologists took the opportunity and this resulted in the general use of modelling and landscape metrics in the study of landscape patterns and processes. Fundamental and theoretical work followed from this, such as the meaning of scale and context, the hierarchical structure and the holistic concept.

Landscape ecology evolved, but so did landscapes and societies. Landscapes transformed irreversibly at increasingly faster paces due to technological improvements and the environmental change, which posed new challen-

ges in studying, planning and managing them. The new problems, often referred to as “environmental crises”, raise questions that were very different according to each regional setting. Thus resulted in different types of regional focus and development of landscape research in general as well as within landscape ecology. Gradually, two distinctive approaches emerged, which are often referred to as a North-American and European one, although overlaps and a more or less constant stimulating dialogue between these two approaches can now be ascertained. Where North-American landscape ecology has inclined to develop a discipline around theory and modelling of spatial analysis at different scales, European landscape ecology has more focused on uniting different disciplines and professions rooted in different traditions of landscape conceptualisations, as well as in the practical analysis and management of different types of landscapes, especially cultural landscapes.

In densely populated Europe, the main concern is on cultural landscapes and the natural and cultural heritage related to these. Most traditional landscapes loose rapidly their ecological and heritage values, which are considered as “natural and cultural capital”. There is a growing need to plan future landscapes in an increasingly urbanised society and polarised environment in the perspective of sustainable development and participatory planning. In rural areas, the EU Common Agricultural Policy (CAP) resulted in new demands for landscape researchers, e.g. related to the formulation of policy relevant indicators of land use change and landscape characterisation. Further, in the transition processes from intensive agriculture towards more multiple types of land use going on in several speeds and intensities in different regions, the new challenges for the rural landscape require new analysis approaches and new management strategies. This is a challenge for scientific research on its own. Sustainable land use and biodiversity planning in cultural landscapes, with often complicated ownership relations, puts growing demands on scientific knowledge on habitat qualities and on the dispersal of threatened species in the landscape. It also forces interested parties to binding cooperations with planners and managers within other (e.g. productive and recreational uses) of the same landscape. As a result, landscape analysis was “discovered” by more disciplines, such as archaeology, landscape architecture, planning and a whole range of human sciences, which had no tradition in landscape research. In Europe, landscape ecologists are a small group amongst all landscape researchers and practitioners.

Today many disciplines are involved in landscape research. Landscape ecology has evolved as a widely recognised distinctive approach among these cooperating disciplines, but there are many transitions between this approach and other relevant approaches in landscape research and its application in planning and management. Landscape

ecology should be flexible and recognise its strength and weaknesses in the cooperation within broader landscape research. In some cases it is clear that the term ‘ecology’ gives a bias of ‘too much’ biology or biogeography, blocking other social and cultural aspects of the landscape. In other cases ‘ecology’ can ensure that landscapes are considered as more than social constructions and emotional pictures of the environment and presupposes scientific research methods.

Landscape: what’s in a name?

The originally Dutch word ‘landschap’ emerged in the 13th century and referred to an organised area of land, managed in a specific way giving it a proper character, which could be seen by anyone. Since the Renaissance, pictorial representations of the landscape scenery were also called ‘landscapes’. Consequently, in common language, the word landscape has multiple meanings which also vary among languages. Most people accept their physical environment as a material reality, but when they see it as a landscape, it refers to a subjective observation and experience and thus has a perceptive, aesthetic and artistic meaning. If the relation to the landscape has been close and persistent, the landscape might have existential meaning, deeply rooted in their culture and history, and reflecting the identity of their land. This is often expressed by proper names given to landscapes or the areas (regions) they form. Landscapes vary from place to place, and differ from each other by their proper characters. Obviously, landscapes are complex holistic systems that can be studied from within very different perspectives.

The definition formulated in the European Landscape Convention passed by the European Council in 2004, is particularly important for many reasons: “Landscape” means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors” (Art. 1, European Landscape Convention). First, it is the only common basis available among the many different linguistic meanings in Europe. It combines different notions and meanings: territory (“area”), scenery and existential meaning (“as perceived by people”), regional identity and holism (“character”), history and ecological dynamics (“result of the action and interaction”) in a transdisciplinary and integrated way (“natural and/or human factors”). Also important is that all kind of landscapes should be considered equally. This evokes special response in the tradition of landscape ecology, typically broadening the often more narrow perspectives of conservation biology, restoration ecology or countryside planning. In fact, the definition of landscape in the Landscape Convention returns to the original concept, where landscape is seen as a unique synthesis between the natural and cultural characteristics of a region.

European landscapes: a mirror of Europe's identity and diversity

The exceptional diversity of the European landscapes is derived from a long interaction between varied natural and cultural factors and the particular shape of the continent. Europe has a highly contorted and dissected coastline, creating many large peninsulas and sea straits. During history, the continental seas were seldom barriers in the development of civilizations and nations, quite the opposite. The interior of the continent shows particularly in the western and central parts many spatial compartments formed by mountain ridges and tectonic basins or river valleys. Each of these formed a niche for the settling of different ethnic groups as is still indicated by the distribution of languages in Europe. These geographic compartments formed comfortable cradles for the establishment of most nation-states of Europe. To the east, land becomes more flat and vast plains extend. The political borders among states were more stable during history in the more compartmented part of Europe. Thus, European landscapes became an essential characteristic of cultural and regional identities and of the whole continent as well.

Today the political construction of Europe has made it possible to create common policy orientations and instruments that do have a strong influence on the landscape, and end up also contributing to this identity construction. The most evident example is clearly the Common Agricultural Policy. With another functioning, also the European Landscape Convention reflects the role that landscape has particularly in Europe. It shows the jointness of interests and relevant issues, based on the landscape, in the European sphere.

Changing landscape research, changing political interest and cooperation

The emergence of an integrated scientific effort to study the trends and problems of European landscapes have been paralleled to a growing interest and coordination at the European political level.

The Dobříš Assessment (1995) published by the European Environmental Agency under the European Union was important to focus the attention of policy-makers and researchers on the problems related to landscape change. It stresses for the first time the importance of landscape diversity and links landscape character to biodiversity, sustainable land use and cultural identity. Indirectly it expresses the fear that the loss of this landscape diversity and character may lead to the loss of not only Europe's natural and historical heritage, but also of its cultural identity. Consequently, it implicitly sets the broad policy agenda and the landscape planning goals as preservation and enhancement of the existing landscape diversity.

A breakthrough for the political engagement in the problems related to European landscapes has been the passing

of the European Landscape Convention in 2004, organised at a pan-European level by the Council of Europe. It took five years to finalize the text of the European Landscape Convention. Its preparation implicated a broad concerted effort, involving the Committee of Ministers of the Council of Europe, the Chamber of Local Authorities and Chamber of Regions, as well as hearings for private and public national and regional scientific bodies, non-governmental organisations, international organisations and regional authorities. Although the Council of Europe made already many recommendations concerning nature and landscape protection since the 1970s, the explanatory report of the European Landscape Convention refers explicitly to the Dobříš Assessment as one of the origins of this convention, thus showing the close connection between the (sometimes difficult) binding character of policy formulation in the EU and the broader (programmatic) perspectives of the activities of the Council of Europe.

EALE and the European Union

Many of the landscape changes in the continent result directly or indirectly from European policies. It is well known that current European policies (for instance nature, water, transport, agricultural policy) have a huge impact on the spatial characteristics and organisation of the territory. Parts of Europe are in the process of rapid urbanisation and industrialisation, while others face extensive land abandonment. Spatial and environmental transformations are radical and affect living conditions as well as potential goods and services supplied by healthy ecosystems and landscapes. Climate change and land use change ignore national boundaries. Hence, it can be considered as an imperfection that a comprehensive landscape policy is not within the scope of EU's competences. A number of European sectoral policies however refer to landscape values and functions, define strategies that take account and make use of these values and functions, and even set clear goals regarding landscapes. All these policies have in common is that they seek to improve integration of environmental concerns, an objective that is a main issue in the "Cardiff process" and the rural development plans. Indeed, only an international and integrated policy and management, based on sound scientific research, and carried out in close cooperation with the different stakeholders, may yield success in an attempt to cope with the different challenges we face today. Cooperation both within the member states and at the community level are thus of paramount importance.

In response to the increasing need to deal with uncertainty concerning the future of changes in the geographic territory of the European Union, EALE will enhance the development of methods for evaluating existing European rural and regional policies in the context of landscape change.

Such methods may take into account (aside of individual or collective scientific landscape ecological research), expert opinions of relevant committees, as well as national statistical data.

These initiatives will strengthen the EU's existing mechanisms of rural and regional decision making and will inform EU's leading authorities about any anticipated undesired landscape changes.

Furthermore, besides promoting sound landscape management and elucidating the causes and consequences of landscape change, EALE may aspire to serve as the prominent inter-European scientific platform for the study of the relationships between landscape ecological parameters and landscape aesthetics. EALE will thus contribute to fostering stronger links between the practices of environmentally responsible tourism and nature protection on the one hand and rigorous theory of landscape ecological analysis on the other.

To this end, EALE will encourage research in combined quantitative landscape analyses, qualitative assessments and practical approaches to land management and land use, so as to eventually formulate sets of good practices per landscape type of Europe.

These combined approaches will then be used in conjunction with educational activities mentioned earlier, in order to promote models of optimal landscape use in Europe.

The European Association for Landscape Ecology will be a perfect platform to organize the knowledge transfer, the collaboration amongst scientists of the different disciplines, and the development and organization of common methodologies, data exchange, targeted working groups, etc. In that respect, permanent contacts are and will be established with key actors on the EU level. The main aim is to discuss knowledge needs and emerging research issues attending alternative policy options. Thus, the objective of EALE is double: mobilizing the potentials for a proper scientific contribution to EU policy and making the landscape ecology science community aware of forthcoming research questions.

Attaining these objectives implies active involvement of as many members of EALE as possible. Therefore the Association will arrange special events where new policy strategies, challenging developments, new visions for European landscapes, new scientific demands will be discussed. Dedicated e-conferences and targeted workshops and symposia have proven that they can yield a wealth of ideas, proposals and data, that may be of particular importance for policy makers. Therefore, it will be a main task of EALE to set up such discussion forums, preferably in collaboration with the competent EU institution. A possible string of meetings, resulting from a preliminary consultation of European institutions and stakeholders could be the following: a general research question or policy issue is spread amongst the EALE members and accompanied by an e-conference. Then a number of smaller regional meetings, organized by the regional

IALE-chapters in Europe, is organized. There the topic is discussed and studied with respect to the particular regional context. Results will be state-of-the-art of knowledge, assessment and further analysis of the topic, conditions for success of regional strategies, etc. Finally results and conclusions of these regional meetings will be dealt with during the European umbrella conference of EALE. Such a series of events ensures a geographically balanced and comprehensive discussion of relevant societal and policy issues. However, there is a risk that the impact remains low, because of bad timing, too lengthy procedure, etc. Therefore, EALE will also encourage that regional chapters involve actively in ongoing discussions. The surplus value of a backing European scientific organization will then be that also other members will be invited to take part in the process and share their experience and data.

EALE and the European Council

The contact with the European Council will be established primarily on the basis of on-going, direct contact with officers engaged in the Landscape Convention implementation, in different countries. Exchange of information and trust developed through these on-going contacts, will be the basis of the relationship to be established. Contacts of that kind are already in place in some countries. The EALE member responsible to building up and maintaining the linkage, should preferably function for a range of years, to secure some continuity. These national or regional officers do have the privileged contacts with the European Council and can advance where the EALE expertise can best be useful and enrich the debates going-on. They should contribute to ensure that the EALE can be integrated in the network of bodies participating in several initiatives, not only the ateliers, but also as advisory body at the Conferences of the Convention, and other relevant events, as stipulated in the guidelines for the implementation of the European Landscape Convention (Recommendation CM/Rec (2008)3 from the Committee of Ministers, 6/2 2008. In this way, not only the relation with the European Council is secured, but also with the processes and actors leading to the implementation of the Convention, at national or regional level. Contacts with stakeholders or research networks will also be established – and have already been done also. The expertise from the members of EALE can be used in this context in several ways: advising at regional, national or European level, promotion of discussions related to up-dated aspects of the implementation, analysis of particular issues in relation to the same, etc.

EALE and European landscape ecological education

EALE will aim to lay emphasis on Vocational and Professional Training in sound landscape management, thus serving as a major actor in turning the hitherto (landscape-insensitive) “land management” to future (landscape-sensitive) “landscape management”.

For this to be achieved, landscape ecology must be un-

derstood by all those involved in “land management” (from farmers and cultivators to landscape designers and civil servants taking decisions on planning, forestry and agriculture), not only as a theoretical framework, but also as a framework for policy making, action and everyday practice for the benefits of nature and humanity.

This aim goes in tandem with the European Union’s repeatedly stated aims to foster vocational training across Europe, not only at the national level, but also at the local and regional levels.

The EALE educational initiatives should be in close links with already created and well-functioning networks with related thematic orientation, e.g. ECLAS, AESOP and UNISCAPE.

Structure and organization of EALE

EALE will be open to all members of IALE International. Every person having paid his or her fee for IALE-International (eventually together with a fee for a regional national chapter) can be a member of EALE for an additional fee. Since there can be many reasons for a member to live outside Europe, the membership is not restricted to persons with a permanent address in Europe. Regional (up to now solely national) chapters in Europe can become corporate members of EALE by including an individual membership of EALE in the membership of the regional chapter. Thus, in this case all members of the regional chapter (being also members of IALE-international) are automatically also members of EALE.

Persons, who are not a member of IALE International can not be a member of EALE. However, EALE will facilitate a close cooperation with other groups and organizations not affiliated with IALE through any membership. The statutes of IALE promote working groups based on cooperation with other groups outside IALE. This should be used to find practical ways of combining the common interests of EALE-members and other groups and individuals with relation to landscape science and its application.

Since landscape ecological practise has first of all to be

implemented at the local and regional level, European regional IALE chapters at a national, sub-national and cross-national level will stay as a main organisational frame for landscape ecologists interested in the application of landscape ecology.

Thus a close and flexible cooperation between EALE, the regional chapters in Europe, and Working groups, connecting these to various partners outside IALE with interests and/or expertise of landscape ecological relevance should be in focus by the organisational development of landscape ecology at the European level.

EALE will be chaired by an Executive Committee with at least four members, expected to have a broad European representation. To facilitate a close cooperation within the Executive Committee it will be nominated and elected as a list, in competition with other nominated lists. If only one list appears by the General Assembly, the list will be elected by acclamation. If there are more lists, a web-based election among all members of EALE will be carried out after the General Assembly.

On the General Assembly a representative to the IALE Council will be elected, and this representative will chair a nominating committee arranging the election of the Executive Committee.

All the representatives to the IALE Council from European IALE Chapters might easily form a EALE Council that could support and complement the Executive Committee, if needed. But this has not been implemented as a mandatory arrangement in the present statutes.

The fee level of EALE will be related to the level of activities and alternative ways of financing. It should however also take into consideration the responsibility of EALE to promote the formation and preservation of small regional and cross-regional chapters, engaged in the enhancement of the rich European diversity in landscapes and related cultural and linguistic differences.

The Statutes of EALE, as forwarded to the IALE Council, can be found at <http://landscape-ecology.eu>.

The IALE Bulletin is distributed three times a year to the members of the IALE. The IALE - International Association for Landscape Ecology was founded in 1982 to promote communication between scientists, planners and interdisciplinary scientific research. IALE Executive Committee: **President:** K. Bruce Jones 2007-2011, US Geological Survey, 12201 Sunrise Valley Drive, Reston, Virginia, USA, kbjones@usgs.gov; **Secretary General:** Vacant, contact President or Bulletin Editor and Deputy Secretary General; **Treasurer:** Ralf-Uwe Syrbe 2007-2011, Saxon Academy of Sciences, Neustädter Markt 19, D-01239 Dresden, Germany, syrbe@iale.de; **Past President:** Bob Bunce 2007-2011; ALTERRA Green World Research, Wageningen UR, Postbox 47, 6700 AA Wageningen, The Netherlands, bob.bunce@wur.nl; **Vice Presidents:** Paul Opdam 2007-2011, Wageningen UR, Landscape Ct., Land Use Planning Group, PO Box 47, 6700 AA Wageningen, The Netherlands, Paul.Opdam@wur.nl; Diane Pearson 2007-2011, Tropical Spatial Science Group, School of Science & Primary Industries, Faculty of Education, Health & Science, Charles Darwin University, Darwin 0909 Australia, diane.pearson@cdu.edu.au; Bojie Fu 2009-2013, Bureau of Science & Technology for Resources & Environment, Chinese Academy of Sciences, 52 Sanlihe Road, Beijing, 100864, P.R. China; Sandra Luque 2005-2009, Cemagref - Institute for Agricultural and environmental engineering research, 2, rue de la papeterie, BP 76, F-38402 St-Martin-d’Hères, cedex, France, sandra.luque@cemagref.fr; **Bulletin Editor and Deputy Secretary General:** Felix Kienast 1999-2011, Swiss Federal Institute of Forest, Snow and Landscape Research WSL, Division of Land Use Dynamics, Landscape Modelling, 8903 Birmensdorf, Switzerland, felix.kienast@wsl.ch; **Chairman of Council:** Bob Gardner 2007-2011, Appalachian Environmental Laboratory, Univ. of Maryland, Center for Environmental Science, Frostburg, MD 21532, gardner@al.umces.edu.

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